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# JEC Assessment: Lao PDR. 2022

May 11th, 2022



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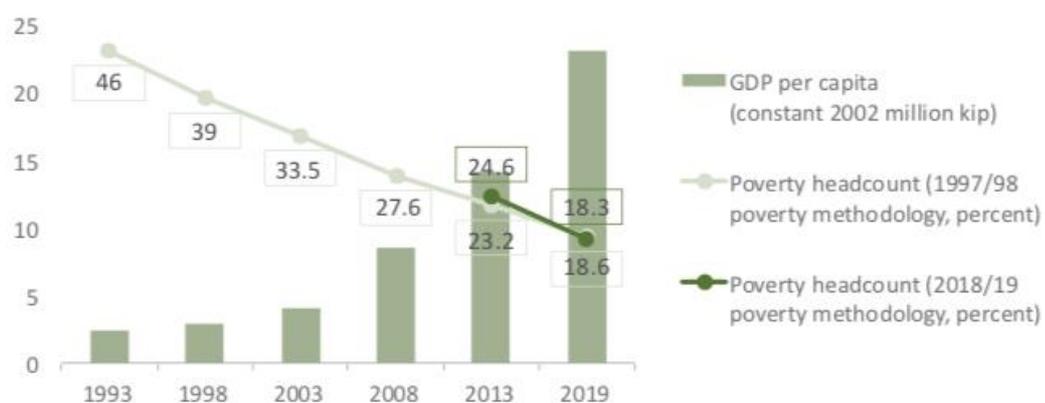
## 1. Macroeconomic Outlook

The Lao People's Democratic Republic (Lao PDR) is a least developed country (LDC), scheduled to graduate in 2026<sup>1</sup>. The only landlocked state in Southeast Asia<sup>2</sup>, with an area of 24 million hectares, the country has a diverse geography of forested mountains, upland plateaus, and lowland plains. The country's population is about 7.3 million as of 2020 with a per capita GDP of USD 2,630, for a total GDP in 2020 of USD 19.14 billion. Lao PDR has a human development index (HDI) of 0.613, ranking it 137<sup>th</sup> out of 189<sup>3</sup>. The country's economy is heavily dependent on natural resources, including agriculture, forestry, hydropower, and mining<sup>4</sup>.

### 1.1 Key economic data

Over the last two decades, Lao PDR has made great economic and social strides. The country increased its GDP on average 8% each year 2000-2015 and by 4.7-7.3% each year 2015-2019. It nearly halved its poverty rate from around 34% in 2003 to near 18% in 2019 (**Figure 1**). Meanwhile it also improved population health and education outcomes, including reducing malnutrition. However, much of the economic growth underlying these successes has depended on investment in capital-intensive industries such as mining and hydropower, financed by international, commercial loans<sup>5</sup>. These loans give the country a debt-to-GDP ratio of 68.2%<sup>6</sup>. This aligns with the general trend of resource-intensive development in Southeast Asia in general<sup>7</sup>. The industries have created relatively few local jobs with almost two thirds (61%) of the population working in agriculture and forestry as of 2019, down from 70% in 2011<sup>8</sup>. Inequality in the country has grown, with poverty concentrated in rural areas.

Figure 1 Trend in Poverty headcount and GDP per capita, 1992/93-2018/19



Source: Government of Lao PDR via The World Bank. Poverty profile in Lao PDR

The Covid-19 pandemic has further exposed weaknesses in the country's macroeconomic situation as trade and jobs sharply slowed, reducing the country's revenues and therefore its ability to service external debt<sup>9</sup>.

<sup>1</sup> [Lao PDR graduation status](#). UN LDC Portal, 2022 (Accessed 5 May 2022).

<sup>2</sup> [About Lao PDR](#). UNDP, 2022. (Accessed 22 March 2022).

<sup>3</sup> [Human Development Reports](#). UNDP, 2020 (Accessed 15 March 2022).

<sup>4</sup> [GCF FP117 Funding Proposal](#). Lao PDR & GIZ, 2019. (Accessed 15 March 2022).

<sup>5</sup> World Bank, 2021 (Accessed 13 March 2022).

<sup>6</sup> [Monitoring of countries graduating and graduated from the list of LDC category: Lao People's Democratic Republic](#). UN Committee for Development Policy, 2022.

<sup>7</sup> [Conceptualising Party-State Governance and Rule in Lao](#). Journal of Contemporary Asia, Creak & Barney, 2018.

<sup>8</sup> [World Development Indicators](#). World Bank, 2022 (Accessed 13 March 2022).

<sup>9</sup> [The World Bank in Lao PDR](#). (Accessed 22 March 2022).

The country's GDP growth in 2020 was its lowest in 20 years at 0.5%, and 2021, while better at approximately 3.5%, did not match pre-pandemic levels (Error! Reference source not found.). The inflation rate rose to 7.31% in February 2022, according to the Bank of the Lao PDR, a steep increase from the average 3.7% inflation rate in 2021<sup>10</sup> (**Figure 3**). Long-term forecasts anticipate that growth is unlikely to return to pre-pandemic rates in the near future.

Figure 3 Lao PDR GDP growth, in percent, 2000-2021. World Development Indicators for 2000-2020; 2021 data from Bank of Lao PDR

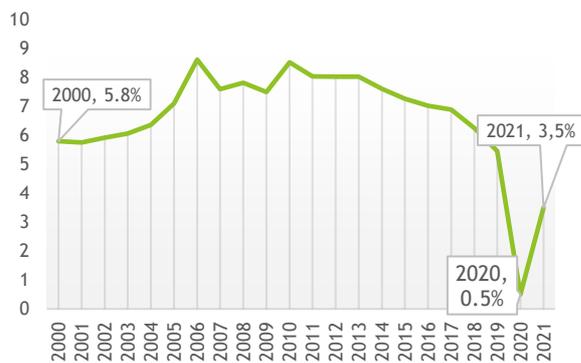


Figure 3 Lao PDR GDP inflation rates, in percent, 2000-2021. Source: World Development Indicators for 2000-2020; 2021 data from Bank of Lao PDR



Lao PDR has a relatively low stock of human capital; its HCI (Human Capital Index, 2020) is lower (0.46) than the average of other East Asia & Pacific region and Lower middle-income countries<sup>11</sup>. The HCI highlights how current health and education outcomes shape the productivity of the next generation of workers. Lao PDR is behind its peers on public spending for both health and education, which disadvantages its future workforce productivity. The government spends 1.0% (as of 2017) of its GDP on health, compared to a 4.9% average in the region and 2.8% in its income group. Similarly, it spends only 2.9% of GDP (as for 2014) on education compared to 4.7% regionally and 4.5% in its income group.

Future success on sustainable economic growth and social equality and advancement depends on Lao PDR solving its challenges in developing human capital; diversifying its economic base away from capital-intensive, low-employment extractive and energy sectors; developing key infrastructure such as water, roads, and electricity; and managing environmental concerns from deforestation and climate change impacts.<sup>12</sup>

Multilateral institutions are invested in the country to help address these issues. The World Bank's Country Partnership Framework (2017-2021)<sup>13</sup> with Lao PDR targeted three focus areas: (i) supporting inclusive growth, (ii) investing in people, and (iii) protecting the environment. These areas were complemented with the cross-cutting theme of strengthening institutions and the rule of law to achieve sustained green growth and opportunities for all. Consultations are currently underway to develop the next Country Partnership Framework (2022-2026)<sup>14</sup>. The Asian Development Bank (ADB) has been a key partner for Lao PDR since 1968 and is one of the country's largest multilateral financiers<sup>15</sup>. In recent years, the ADB has supported Lao PDR's government in responding to the Covid-19 pandemic, promoting gender equality, responding to and mitigating climate change, and driving infrastructure development across multiple sectors (transport, energy (especially hydropower), agriculture, and human development). In line with the country's 9th Five-

<sup>10</sup> [Bank of the Lao PDR](#). (Accessed 16 March 2022).

<sup>11</sup> [Lao People's Democratic Republic: Human Capital Index 2020](#). World Bank Human Capital Project, 2020.

<sup>12</sup> [Development Finance Assessment Snapshot: Lao PDR](#). UNDP, 2018.

<sup>13</sup> [Country Partnership Framework \(2017-2021\)](#), World Bank, 2017

<sup>14</sup> [Consultation Plan](#). World Bank, 2021.

<sup>15</sup> [Lao People's Democratic Republic: Asian Development Bank Member Fact Sheet](#). ADB, 2020.

Year National Socio-Economic Development Plan, the ADB envisions cross-cutting support to promote gender equality, good governance, and private sector development in the coming years<sup>16</sup>.

Table 1 Summary of key economic data. Source: World Development Indicators, unless otherwise noted; data for latest year available.

<b>Lao PDR (National Level)</b>	
Size	23,680,000 ha
Population	7,276,000
GDP per capita	(2020) USD 2,629.70
Unemployment rate	1.0% (World Bank estimate); 9.4% as of 2017; 20% as of 2020 due to pandemic (Government of Lao PDR, 2021, 9 <sup>th</sup> NSEDP)
Gini Index	38.8
Poverty rate	18.3 %
Inflation rates	3.3% (2019), 5.1% (2020), 3.7% (2021), 7.31% (Feb. 2022)
Main agricultural and forest products <sup>17</sup>	Rice, roots & tubers, cassava, fresh vegetables, sugar cane, maize, banana, coffee, watermelon, rubber; wood fuel, sawlogs

## 2. Political background

Lao PRD is a one-party, socialist unitary state, controlled per the Constitution by the Lao People's Revolutionary Party (LPRP). The party's centralized rule extends to the 17 provinces and one prefecture – the capital city of Vientiane – as well as to the district and village levels<sup>18</sup>. Lao PDR's [1991 Constitution](#) and [2007 Forestry Law](#) both define natural forestlands, including communal village forestland, as the ultimate property of the national community, managed centrally by the State. However, plantation forests are the property of individuals and organizations<sup>19</sup>.

### 2.1 Environmental governance

Lao PDR's overarching forest policy framework is focused on the primary goals of protecting remaining natural forests and promoting restoration to enable green, forest-based development, livelihoods, and economic growth. **Figure 4** shows a timeline for the environmental and climate change policy framework and **Table 3** outlines the country's relevant international commitments, policies, and domestic initiatives and programs to realize its climate, forest, and land use priorities.

The government of Lao PDR's last year adopted the country's [Ninth National Socio-Economic Development Plan](#) for 2021-2025. The plan aims for a green recovery from the Covid-19 pandemic through a focus on natural resource-based jobs, livelihoods, and resilience. In line with the revised [Forestry Law](#) and the 2030 [National Green Growth Strategy](#) (NGGS), both adopted in 2019, the country has been shifting toward a long-term approach to managing its natural resource base to build a foundation for sustainable economic development and national wealth building<sup>20</sup>. In addition, in 2021 the country adopted its [National REDD+ Strategy](#) to 2025 and Vision to 2030, which will also be incorporated into the 2030 Forestry Strategy, currently under development. A major influence on the changing forest sector is also the 2019 [Land Law](#), which for the first-time opened land ownership to foreign entities.

<sup>16</sup> [Development Finance Assessment Snapshot: Lao PDR](#). UNDP, 2018.

<sup>17</sup> [FAOSTAT](#). FAO, 2022.

<sup>18</sup> [Working with your Lao Partner](#). Boase, 1997.

<sup>19</sup> [Lao PDR: Forest Legality Initiative](#). WRI, 2013

<sup>20</sup> [PIDA28679](#). World Bank, 2020

Lao PDR's government has consistently stated the goal to increase the country's forest cover to its historical (1940) level of 70%, up from 58% as of 2015. The [Forest Strategy](#) to the year 2020, adopted in 2007, contains this target, as does Lao PDR's [2<sup>nd</sup> NDC](#) submission under the Paris Agreement (as a conditional target). The 2<sup>nd</sup> NDC acknowledges that the 70% target was not achieved in 2020 as originally intended. Instead, a 2019 assessment by the Department of Forestry under the Ministry of Agriculture and forestry found that current forests covered 57.5% of national territory.<sup>21</sup> From 2005 to 2015, the forest estate had annual average net greenhouse gas (GHG) emissions of 34.1 MtCO<sub>2</sub>e.

The NDC sets an unconditional target to reduce forest emissions by 1,100 ktCO<sub>2</sub>e/year from 2020-2030, equivalent to increasing forest stocks by 8,300 ha per year. This target is not disaggregated according to forest activity (e.g. deforestation, forest degradation). However, the government does indicate that the target will be achieved mainly through existing REDD+ mitigation projects (see below and Table 2). The conditional target of increasing forest cover to 70% of land area, i.e. 16.58 million ha, is equivalent to abatement of 45,000 ktCO<sub>2</sub>e/year from 2020-2030. An estimated 1.7 billion USD in financing is needed to meet this target. Consistent with this, the [National REDD+ Strategy](#) (NRS) states as a target to reduce greenhouse gas emissions in the forestry sector by 30 million tCO<sub>2</sub>e by 2025, by reducing emissions from "forest/tree loss"<sup>22</sup> of around 21 million tCO<sub>2</sub>e, and the promotion of removals of around 9 million tCO<sub>2</sub>e through forest restoration and plantations.

The government is working with multilaterals to fund major forest protection programs in the country. In 2021, Lao PDR signed an Emission Reductions Purchase Agreement (ERPA)<sup>23</sup> with the World Bank totaling USD 42 million in payments for verified reductions of up to 8.4 million tonnes of CO<sub>2</sub> emissions from its REDD+ program in northern Laos. A Green Climate Fund program (FP117) complements this REDD+ program by strengthening the enabling environment for REDD+ by enhancing the availability of finance and strengthening the forestry sector's legal and regulatory framework<sup>24</sup>. Total project financing is USD 71 million. Meanwhile, the World Bank-sponsored "Lao Landscapes and Livelihoods Project" (2021-2027) aims to promote sustainable forest management, improve protected area management, and enhance livelihoods opportunities in selected landscapes in Lao PDR at total project cost of USD 57 million<sup>25</sup>.

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<sup>21</sup> [What is the forest area of Lao People's Democratic Republic?](#) FAO, 2021.

<sup>22</sup> While "forest/tree loss" is not explicitly defined in the NRS, it can be inferred that this term refers to a reduction in the amount of Current Forest, whether through "encroachment or conversion to other land use type". This would include deforestation, forest degradation, changes between land use and forest strata, and selective logging.

<sup>23</sup> Forest Carbon Partnership. [Emissions Reductions Payment Agreement \(ERPA\)](#) (Accessed 22 March 2022)

<sup>24</sup> GCF. FP 117. [Implementation of the Lao PDR Emission Reductions Programme through improved governance and sustainable forest landscape management](#)

<sup>25</sup> World Bank. [Lao Landscape and Livelihoods project](#)

Figure 4 General overview of the Environmental and Climate Change Policy Framework

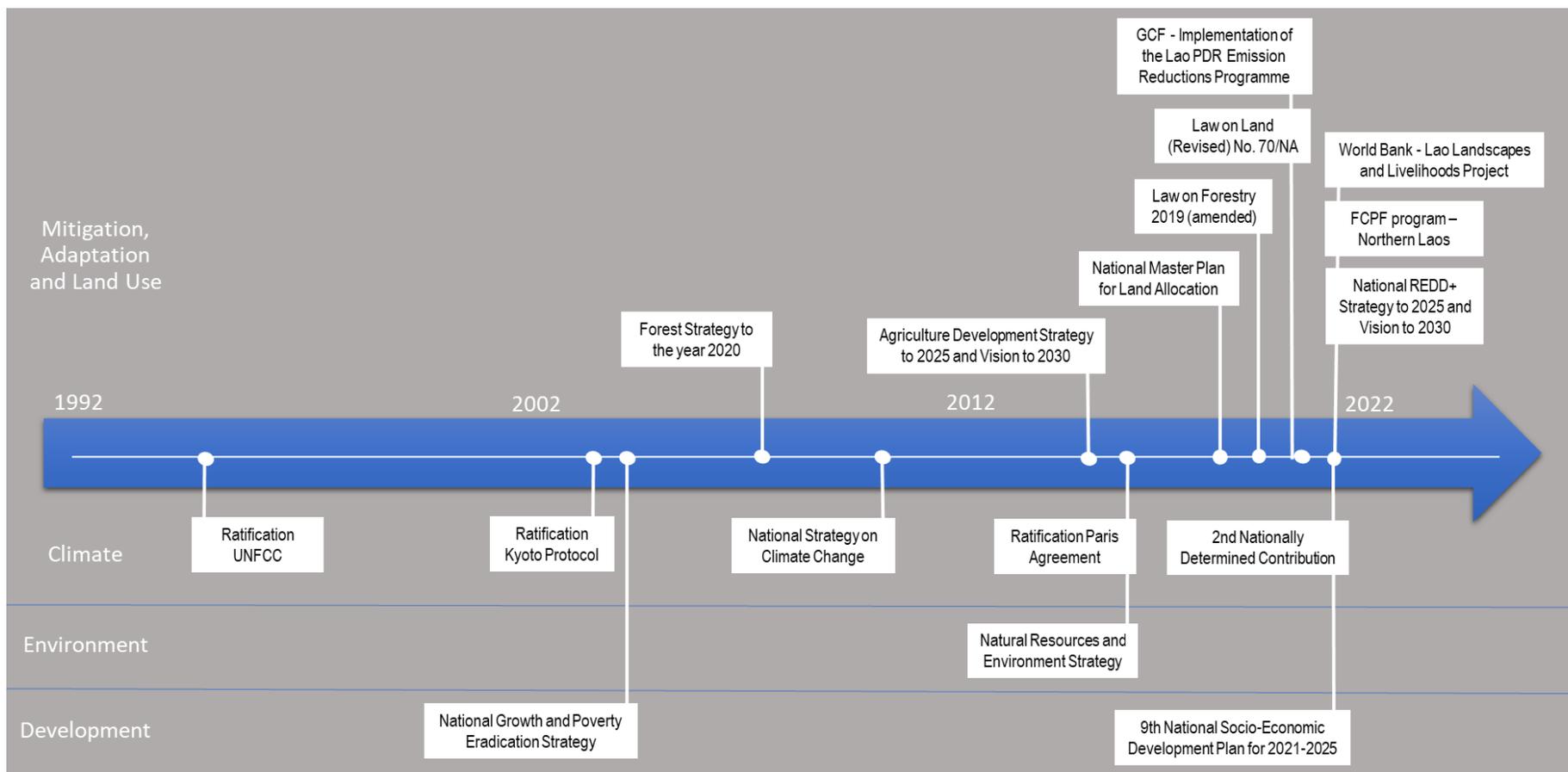


Table 2 Overview of climate and land use policies, initiatives, and relevant commitments

Year(s)	Policy or Initiative	Type	Forest, peatland, restoration	GHG emission reductions	Description
<b>INTERNATIONAL COMMITMENTS</b>					
1995	<i>United Nations Framework Convention on Climate Change (UNFCCC).</i>	International convention		x	Lao PDR has been a party to the UNFCCC since 1995.
2003	<i>Kyoto Protocol</i>	International agreement		x	Lao PDR ratified the Kyoto Protocol in 2003.
2016	<i>Paris Agreement</i>	International agreement	x	x	Lao PDR ratified the Paris Agreement in 2016.
2021	<i>Nationally determined contribution (2021)</i>	Plan	x	x	Lao PDR's 2 <sup>nd</sup> NDC submission under the Paris Agreement and the UNFCCC sets an unconditional target to reduce forest emissions by <b>1,100 ktCO<sub>2</sub>e/year</b> from 2020-2030, equivalent to increasing forest stocks by <b>8,300 ha per year</b> . It also sets a conditional target of increasing forest cover to <b>70% of land area</b> , i.e. 16.58 million ha, equivalent to abatement of <b>45,000 ktCO<sub>2</sub>e/year</b> from 2020-2030. An estimated 1.700 billion USD in financing is needed to meet this target.
<b>NATIONAL LEGISLATION AND POLICIES</b>					
2004	<i>National Growth and Poverty Eradication Strategy (NGPES)</i>	Strategy			A national framework for growth and development with the dual objective to enhance growth and sustainable development and reduce poverty.
2007	<i>Forestry Strategy to the year 2020 (FS 2020)</i>	Strategy	x		The strategy lays out a vision of the forestry sector as continuing in its role as one of the leading sectors advancing national socio-economic development, supporting the overarching objective of poverty eradication through improved forest policy and management. Sets a target to increase the country's forest cover to <b>65% of total land area by 2015 and to 70% by 2020</b> .

2010	<u><a href="#">National Strategy on Climate Change</a></u>	Strategy		x	The overall goal of the strategy is to ensure climate change adaptation and mitigation to promote sustainable economic development, reduce poverty, protect public health and safety, enhance the quality of natural environment, and advance the quality of life for all Lao people.
2016-2025	<i>Natural Resources and Environment Strategy</i>	Strategy	x	x	The strategy outlines direction for the development and management of natural resources and environment, and to ensure sustainable social economic development, and build capacity for climate change adaptation and mitigate the risks of natural disaster.
2015	<u><a href="#">Agriculture Development Strategy to 2025 and Vision to 2030</a></u>	Strategy			A strategic instrument with a multi-sectoral approach which aims to ensure food security, produce comparative and competitive agricultural commodities, develop clean, safe and sustainable agriculture and shift gradually to the modernization of a resilient and productive agriculture economy linking with rural development.
2018	<i>National Master Plan for Land Allocation</i>	Legislation	x		The National Master Plan defines land to be reserved and conserved to be forestland covering <b>70% of the country's land area</b> , including wetland. 19% is set aside for agricultural production to ensure the support for food security. The designated land consists of Protection Forest, Conservation Forest and Production Forest, including forest plantation.
2019	<u><a href="#">Law on Forestry 2019 (amended)</a></u>	Legislation	x	x	The law provides for the sustainable management, preservation, development, utilization and inspection of forest resources and forest land, and of forest regeneration and tree planting. Major revisions in 2019 include the reinforcement and refinement of regulations on logging and forest conversion, the establishment of a timber legality assurance system in line with FLEGT, and the development of policies related to forest environmental services, including REDD+. The revised law also specifies the participation of local communities in forest management, the official recognition of village forests in state-managed forests, and the creation of a village forest management planning system that includes commercial logging in village forests.
2020	<u><a href="#">Law on Land (Revised) No. 70/NA</a></u>	Legislation	x		The law liberalizes Lao PDR's land ownership structures and establishes a modern land administration system.

2021	<i>9th National Socio-Economic Development Plan for 2021-2025 (NSEDP)</i>	Policy	x		Lao PDR's 9th National Socio-Economic Development Plan 2021-2025 aims for six outcomes: economic growth, quality human resources, enhanced wellbeing, environmental protection, regional integration and public governance and administration.
2021	<i>National REDD+ Strategy (NRS) to 2025 and Vision to 2030</i>	Strategy	x	x	The NRS's overall objectives are to contribute to developing the forestry sector (both natural and planted forests) and to provide environmental protection, particularly addressing issues of greenhouse gas emissions, as well as supporting socio-economic development and livelihood improvement. The NRS will be incorporated into the 2030 Forest Strategy, which is currently being drafted. <b>The NRS sets a target to reduce emissions from the forest sector by 30 million tCO<sub>2</sub>e by 2025, including reducing emissions from deforestation and forest degradation by 21 million tCO<sub>2</sub>e and to increase removals from restoration and reforestation by 9 million tCO<sub>2</sub>e.</b>
<b>NATIONAL AND SUBNATIONAL FOREST &amp; CLIMATE PROGRAMS</b>					
2020-2024	<i>"Implementation of the Lao PDR Emission Reductions Programme through improved governance and sustainable forest landscape management" (FP117)</i>	Program	x	x	This Green Climate Fund program aims to strengthen an enabling environment for REDD+ by enhancing the availability of finance and strengthening the forestry sector's legal and regulatory framework.
2021	<i>"Promoting REDD+ through Governance, Forest Landscapes and Livelihoods — Northern Laos"</i>	Program	x	x	The Emission Reductions Payment Agreement (ERPA) was signed in 2021, committing the World Bank to make payments totalling up to USD 42 million to the Lao PDR for verified reductions of <b>up to 8.4 million tonnes of carbon dioxide emissions</b> in northern Laos. The program aims to address the drivers and underlying causes of forest loss in six provinces encompassing a third of national territory.
2021-2027	<i>"Lao Landscapes and Livelihoods Project" (P170559)</i>	Program	x	x	This World Bank program aims to promote sustainable forest management, improve protected area management, and enhance livelihoods opportunities in selected landscapes in Lao PDR.

## 2.2 Recommendations for the jurisdictional level of assessment

Lao PDR's National REDD+ Strategy outlines the environmental governance arrangements that justify jurisdictional assessment at the national level. The Constitution of Lao PDR states natural resources, including land, minerals, forest, and air, are the property of the national community. The State is the designated authority to centrally manage natural resources in a uniform manner throughout the country. Article 19 of the Constitution also describes the State's role in promoting the sustainable protection, restoration, and development of environmental and natural resources.

The land sector is managed under the authority of the Ministry of Natural Resources and Environment (MoNRE), with its Department of Land acting as secretariat for the land management structure at the central level. Its responsibilities include legislation, land allocation, land use planning, and the issuance of titles and certification. Forests, forestlands, and forest resources are managed under the authority of the Ministry of Agriculture and Forestry (MAF). Its Departments of Forestry and Department of Forest Inspection function as the secretariat for the forest management structure. These Departments have the responsibilities to formulate policies, strategies, programs, and technical standards related to forest management and allocation, as well as the implementation of relevant laws and regulations.

The national government of Lao PDR has been engaged in REDD+ since 2008, implementing a national REDD+ readiness program and developing a Nation REDD+ Strategy, a Forest Reference Emission Level (FREL), a National Forest Monitoring System (NFMS), and a Safeguards Information System (SIS). The government has also established REDD+ institutional arrangements at the central level and in priority provinces.

Given the overall centralization of power in the unitary government structure, we determine that the national government has the authority to sustainably manage, preserve, and monitor forest and peatland natural resources. **Therefore, the appropriate jurisdictional level for assessment is the national level.**

## 3. Forest trends

In 1940, Lao PDR was predominately a forested country with 70% forest cover. **Beginning in the late 1970s, a rapid period of deforestation reduced its forest cover to its current level of around 58%**<sup>26</sup>. Shifting cultivation, commercial logging, and commercial agriculture have driven much of this decline. Between 1992 and 2002, the average rate of deforestation was 1.2 to 1.3%, or an average of 134,000 hectares per year<sup>27</sup>. Dense forest cover declined from 29% to 8.2% while open forest cover increased from 16% to 24.5%. When deforestation and forest degradation are counted together, an average of 181,000 hectares of forest were affected per year from 2005 to 2015 (gross deforestation and forest degradation)<sup>28</sup>.

Today, Lao PDR retains the highest proportion of forest and woodland among any other country in Southeast Asia<sup>29</sup>. However, Lao PDR's forests are concentrated on difficult terrain, with cropland concentrated in the upland plains<sup>30</sup>. Of the country's 13.7 million hectares of forest, 3.1 million are classified as Production forests.

Emissions from forest degradation exceed those from deforestation in the country. According to the country's 2018 FREL, the average annual forest emissions (from deforestation and forest degradation) from

<sup>26</sup> [National REDD+ Strategy](#). GoL, 2021.

<sup>27</sup> [Increasing Climate Resilience of Smallholder Farmers through Forestry](#). VNV Advisory 2022.

<sup>28</sup> [FCPF ERPD](#). GoL, 2018.

<sup>29</sup> [A Case Study of the Lao PDR Forest Investment Program](#). World Bank, 2018.

<sup>30</sup> [FCPF ERPD](#). GoL, 2018.

2005-2014 were 41.0 million tCO<sub>2</sub>e. Of this, an average of 12.0 million tCO<sub>2</sub>e per year (29%) was from deforestation vs. 29.0 million tCO<sub>2</sub>e per year (71%) from forest degradation<sup>31</sup>. Shifting cultivation and logging are the main drivers of degradation, and especially illegal logging and unmanaged conversion logging are causing degradation<sup>32</sup>.

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<sup>31</sup> [EREL \(2018\)](#)

<sup>32</sup> [A Case Study of the Lao PDR Forest Investment Program](#). World Bank, 2018.

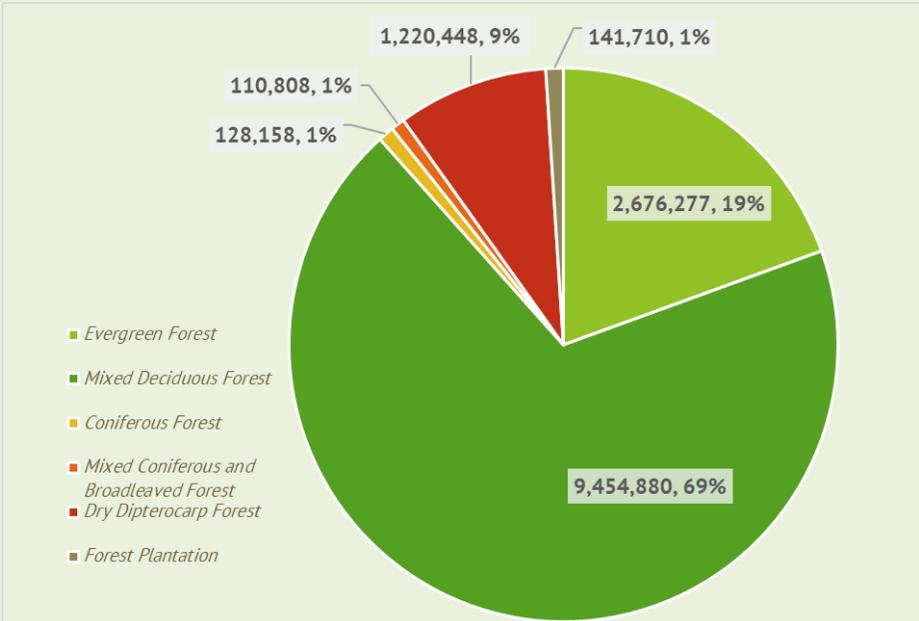
<b>Country</b> <i>Lao PDR</i>	<b>Date of Report</b> <i>11<sup>th</sup> of May, 2022</i>	<b>Author</b> <i>Climate Focus</i>
<b>sub-national jurisdiction</b> <i>[if applicable]</i>	<b>Date of AB Decision</b> <i>13<sup>th</sup> of May, 2022</i>	<b>Approval Status</b> Approved

**Version History**

<b>Date</b>	<b>Version</b>	<b>Author</b>
<b>11/05/2022</b>	<b>1</b>	<b>Climate Focus</b>

## Checklist JEC 1

## Lao PDR

Item	Criteria	Analysis	Check	References																					
1.1	Amount of forest/peatland in the jurisdiction	<p><b>Summary conclusion:</b> <u>Forest covers ca. 13.6 million hectares of Lao PDR's surface - 57% of the country. Despite not being fully inventoried or described in detail, peatlands are scattered throughout various areas; some of them listed as Ramsar sites.</u></p> <p>Lao PDR covers 23,680,000 ha. In 2005 the country had 14.3 million ha of standing forests. By 2015, forest had been reduced to <b>13.7 million ha</b>. [1] Lao PDR contains several forest types. <b>Figure 5</b> summarizes the types and extent of Current Forests in Lao PDR as of 2015.</p> <p>Figure 5. Summary of forest cover in 2015</p>  <table border="1" data-bbox="568 703 1487 1324"> <caption>Data for Figure 5: Summary of forest cover in 2015</caption> <thead> <tr> <th>Forest Type</th> <th>Area (ha)</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Evergreen Forest</td> <td>9,454,880</td> <td>69%</td> </tr> <tr> <td>Mixed Deciduous Forest</td> <td>2,676,277</td> <td>19%</td> </tr> <tr> <td>Mixed Coniferous and Broadleaved Forest</td> <td>1,220,448</td> <td>9%</td> </tr> <tr> <td>Dry Dipterocarp Forest</td> <td>141,710</td> <td>1%</td> </tr> <tr> <td>Coniferous Forest</td> <td>110,808</td> <td>1%</td> </tr> <tr> <td>Forest Plantation</td> <td>128,158</td> <td>1%</td> </tr> </tbody> </table>	Forest Type	Area (ha)	Percentage	Evergreen Forest	9,454,880	69%	Mixed Deciduous Forest	2,676,277	19%	Mixed Coniferous and Broadleaved Forest	1,220,448	9%	Dry Dipterocarp Forest	141,710	1%	Coniferous Forest	110,808	1%	Forest Plantation	128,158	1%	OK	<p>[1] <a href="#">National REDD+ Strategy (2021)</a></p> <p>[2] <a href="#">FREL (2018)</a></p> <p>[3] <a href="#">Ramsar Sites Information Service</a></p> <p>[4] <a href="#">IUCN (2021)</a></p>
Forest Type	Area (ha)	Percentage																							
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Forest Plantation	128,158	1%																							

		<p>Commercial forestry plantations expand to almost <b>142,000 ha</b> in 2015 from 24,500 in 2005. [1] Under the category of 'Potential Forest', Lao PDR's government has inventoried over <b>91,000 ha</b> of bamboo and <b>6.2 million hectares</b> of regenerating vegetation<sup>33</sup></p> <p>The forest classification system of Lao PDR identified under the category of "aboveground water sources" about <b>10,700 ha</b> of swamps [3] -a wetland dominated by woody plants-. Furthermore, there are other areas of the country where peatlands – wetlands with a thick water-logged soil layer made up of dead and decaying plant material – are likely to exist too, including Attapeau Province, Savannakhet Province, and Khammouane Province [4].</p> <p>To advance in the mapping of Lao PDR's, two peatland projects are being implemented by the Department of Water Resources under the Ministry of Natural resources and Environment: the Sustainable Use of Peatland and Haze Mitigation in ASEAN (SUPA) and Sustainable Management of Peatland Ecosystems in Mekong Countries (the <u>Mekong Peatlands Project</u>)</p>		
1.2	<p><b>Quality of forest/peatland in the jurisdiction</b></p>	<p><u>Summary conclusion: Lao PDR has globally important ecoregions and biodiversity hotspots that are currently threatened by deforestation and forest degradation. A large proportion of the country's forest cover remains conserved, being home to 80% of the population and a wide range of endemic and endangered species.</u></p> <p>Lao PDR is in the heart of Southeast Asia -is bordered by Cambodia, China, Myanmar, Thailand, and Vietnam- and is rich in natural resources and biodiversity. Lao PDR is part of the Indo-Burma biodiversity hotspot and is home to 51 of the <u>Key Biodiversity Areas (KBA)</u> present in this hotspot.</p> <p>The Mekong River flows through 1,900 km of the country's territory making Lao PDR very rich in water resources. The country has the larger key biodiversity areas (KBAs) for fish (14 KBAs), over the rest of the countries of the Indo-Burma hotspot. The country's KBAs also include areas for mammals (32 KBAs), birds (24 KBAs), reptiles (20 KBAs), amphibians (1 KBAs), invertebrates (2</p>	OK	<p>[1] <u>National REDD+ Strategy (2021)</u></p> <p>[2] <u>Indo-Burma ecosystem profile (2020)</u></p> <p>[3] <u>WWF's 2015 - 2020 Laos Strategy (2015)</u></p> <p>[4] <u>Ramsar Sites Information Service</u></p> <p>[5] <u>Systematic reassessment of Laos' protected area network. Kukkonen &amp; Tammi (2019)</u></p>

<sup>33</sup> Area covered under forest fallow stages of shifting cultivation, regenerating through natural vegetative succession, going in and out (currently only in limited cases) of temporarily un-stocked states [2].

	<p><i>KBAs), and plants (8 KBAs). Moreover, Lao PDR hosts 10 of the 56 conservation corridors defined for the Indo-Burma hotspot [2].</i></p> <p><i>Furthermore, Lao PDR falls within 5 of WWF's 200 ecoregions of global importance: the Southern Annamites Montane Rain Forests, the Northern Indochina Subtropical Forests, the Luang Prabang Montane Rain Forests, the Northern Thailand-Laos Moist Deciduous Forests, and the Southeastern Indochina Dry Evergreen Forests. Thus, the country is home to several priority species such as the Asian elephant, Eld's deer, Mekong River Irrawaddy dolphin, Mekong giant catfish, and elusive saola [3].</i></p> <p><i>Regarding protected areas (PAs) in Lao PDR, the country has three categories: <b>National Protected Area (NPAs), Protection Forest Area (PTAs), and Production Forest Areas (PFAs)</b>. Altogether, PAs cover about 62% of the country's surface, however, some researchers highlight that there are a lot of areas within the protected area network (PAN) with low biodiversity value due to their residential and agricultural use [3].</i></p> <p><i>The country's Ramsar sites account for almost <b>15,000 ha</b>: Beung Kiat Ngong Wetlands (<b>2,360 ha</b>) and Xe Champhone Wetlands (<b>12,400 ha</b>) [4].</i></p> <p><i>Despite its biodiversity and forest richness, several ecosystems are threatened. Between 2005 and 2015, forest cover was reduced by about 0.64 million ha mainly by encroachment and conversion to other land uses, which also left about 0.41 million ha of degraded forest. These land use changes included commercial forest plantations (59,000 ha), permanent agricultural land (168,000 ha), and upland rain-fed rice fields (56,000 ha) [1]. Moreover, Lao PDR's biodiversity is being threatened by growing wildlife crime, the development of infrastructure projects, and increased habitat loss [5].</i></p>		
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## Checklist JEC 2: Ambition and Strategy

Item	Criteria	Analysis	Check	Lao PDR References
2.1	Quantitative target against historic rates of gross deforestation	<p><i>Summary conclusion: <u>In its NDC, Lao PDR unconditionally targets 1,100ktCO<sub>2</sub>e average annual emission reduction in LUCF sector between 2020 and 2030. The National REDD+ Strategy targets a (presumed cumulative) 21 million tCO<sub>2</sub>e reduction in emissions from forest/tree loss (e.g. deforestation and forest degradation) between 2021 and 2025.</u></i></p> <p><i>Lao PDR updated its NDC in 2020 [1]. Unconditional mitigation targets by 2030 for the Land Use Change and Forestry (LUCF) sector include the reduction of emissions from deforestation and forest degradation, fostering conservation, sustainable management of forests, buffer zones of national parks and other preserves, and enhancement of forest carbon stocks. The specific target is to reduce LUCF emissions by 1,100ktCO<sub>2</sub>e (1.1 million tCO<sub>2</sub>e) per year on average between 2020 and 2030 compared to the business-as-usual scenario. It is not clear how this target is divided among the different measures; the government suggest that the target is equivalent to establishing 8,300 ha of forest plantations per year [1].</i></p> <p><i>Furthermore, the conditional mitigation targets include increasing forest cover to 70% of the country's area by 2030 (i.e. to 16.58 million ha). This target was previously included in the <u>National Forestry Strategy</u> of 2007. The National REDD+ Strategy (NRS) indicates that an average of 64,000 hectares of Current Forest were lost from 2005 to 2015. Presumably, to meet its 70% forest cover target, Lao PDR would have to end this deforestation by 2030 in addition to promoting reforestation and afforestation.</i></p> <p><i>Other relevant targets include:</i></p> <ul style="list-style-type: none"> <li><i>• The National REDD+ Strategy target of reducing greenhouse gas emissions in the forestry sector by 30 million tCO<sub>2</sub>e by 2025 – including reducing emissions from forest/tree loss<sup>34</sup> by</i></li> </ul>	OK	<p><i>[1] <u>Lao PDR NDC (2020)</u></i></p> <p><i>[2] <u>National REDD+ Strategy (2021)</u></i></p> <p><i>[3] <u>FREL (2018)</u></i></p> <p><i>[4] <u>Technical Annex on REDD+</u></i></p> <p><i>[5] <u>FP 117. Implementation of the Lao PDR Emission Reductions Programme through improved governance and sustainable forest landscape management</u></i></p>

<sup>34</sup> While “forest/tree loss” is not explicitly defined in the NRS, it can be inferred that this term refers to a reduction in the amount of Current Forest, whether through “encroachment or conversion to other land use type”. This would include deforestation, forest degradation, changes between land use and forest strata, and selective logging.

		<p>around 21 million tCO<sub>2e</sub>– and the promotion of removals of around 9 million tCO<sub>2e</sub> through forest restoration and plantation [2]. These targets are assumed to be cumulative reductions from 2021-2025 against the 2005-2014 baseline. Average annual forest emissions (from deforestation and forest degradation) from during the FREL [3] baseline period of 2005-2014 were 41.0 million tCO<sub>2e</sub>. During the REDD+ results periods reported in the Technical Annex on REDD+ [4], emissions were 38.3 million tCO<sub>2e</sub> per year from 2015-2016 (reduction of 2.7 million tCO<sub>2e</sub> compared to the baseline) and 37.3 million tCO<sub>2e</sub> per year from 2017-2018 (reduction of 3.7 million tCO<sub>2e</sub>). Over a four-year period, then, Lao PDR reduced its total forest emissions by 12.8 million tCO<sub>2e</sub> compared to the baseline. A cumulative 21 million tCO<sub>2e</sub> reduction over a five-year period would therefore be more reasonable than an annual reduction of that amount.</p> <ul style="list-style-type: none"> <li>• The target of the <u>GCF's project</u> “Implementation of the Lao PDR Emission Reductions Programme through improved governance and sustainable forest landscape management” of reducing deforestation by 6% by 2024 [5].</li> </ul>		
2.2	<b>Ambition</b>	<p><b>Summary conclusion:</b> <u>Lao PDR’s unconditional NDC target to reduce its average annual LUCF emissions by 1,100ktCO<sub>2e</sub> per year between 2020 and 2030 is ambitious, assuming that the reduction is cumulative. Similarly, the NRS target to reduce forest sector emissions by 21 million tCO<sub>2e</sub> from 2021 to 2025 is ambitious compared to the results achieved under REDD+ in 2015 to 2018 [1].</u></p> <p>The Lao PDR’s FREL [2], submitted to the UNFCCC in 2018, was constructed based on the reference period 2005-2015 and is described as valid until 2025. According to this FREL, the average annual forest emissions (from deforestation and forest degradation) from during the FREL [2] baseline period of 2005-2014 were 41.0 million tCO<sub>2e</sub>. Of this, an average of 12.0 million tCO<sub>2e</sub> per year (29%) was from deforestation vs. 29.0 million tCO<sub>2e</sub> per year (71%) from forest degradation.<sup>35</sup></p>	OK	<p>[1] <u>National REDD+ Strategy (2021)</u></p> <p>[2] <u>FREL (2018)</u></p> <p>[3] <u>Lao PDR NDC (2020)</u></p> <p>[4] <u>Technical Annex on REDD+</u></p>

<sup>35</sup> The Lao People’s Democratic Republic has defined deforestation as “a change of a forest land stratum to a non-forest land stratum”; on the other hand, forest degradation was defined as “a change within forest land strata from a higher biomass stratum to lower biomass stratum”. Forest in Lao is defined through crown density of at least 20%, with a minimum area of 0.5 ha [1].

		<p>According to Lao's NDC [3], total (gross) LUCF emissions in the year 2000 were 44.8 million tCO<sub>2e</sub>, while average annual emissions between 2005 and 2015 were 41.0 million tCO<sub>2e</sub>. This equals an average annual reduction of 3.8 million tCO<sub>2e</sub> per year against the 2000 baseline, or a total reduction of 38 million tCO<sub>2e</sub> over the ten-year period.</p> <p>Lao's NDC includes the specific target is to reduce LUCF emissions by 1,100ktCO<sub>2e</sub> (1.1 million tCO<sub>2e</sub>) per year on average between 2020 and 2030 compared to the business-as-usual scenario from the year 2000. The NDC describes this target as "a threefold reduction objective compared to what was achieved between 2000 and 2015." If we assume that this target is also cumulative and that each year, the annual reduction will increase by 1.1 million tCO<sub>2e</sub> (i.e. the annual reduction in 2021 will be 1.1 million, in 2022 2.2 million, in 2023 3.3 million, etc.), then the total emission reduction by 2030 will be 60.5 million tCO<sub>2e</sub>, for an average annual reduction of 6.1 million tCO<sub>2e</sub>. While this is not a "threefold" objective as described, this would be a 59% increase over reductions achieved in 2005-2015, which is an ambitious target. More clarity is needed from Lao PDR in how it calculated the "threefold" increase in ambition described in its NDC.</p> <p>Similarly, the NRS's [1] target to achieve a cumulative 21 million tCO<sub>2e</sub> reduction in forest emissions over a five-year period from 2021 to 2025 is ambitious. This would equal an average annual reduction of 4.2 million tCO<sub>2e</sub>. As described above, during the REDD+ results periods reported in the Technical Annex on REDD+ [4], emissions were 38.3 million tCO<sub>2e</sub> per year from 2015-2016 (reduction of 2.7 million tCO<sub>2e</sub> compared to the baseline) and 37.3 million tCO<sub>2e</sub> per year from 2017-2018 (reduction of 3.7 million tCO<sub>2e</sub>). Over a four-year period, then, Lao PDR reduced its total forest emissions by 12.8 million tCO<sub>2e</sub> compared to the baseline for an average reduction of 3.2 million tCO<sub>2e</sub> per year. An average reduction of 4.2 vs. 3.2 million tCO<sub>2e</sub> per year can be considered ambitious.</p>		
2.3	... equalling or exceeding national targets	<p><b>Summary conclusion:</b> <u>n/a</u></p> <p>Assessment is applied at the national level.</p>	OK	
2.4	Feasible Strategy	<p><b>Summary conclusion:</b> <u>The Lao PDR's strategy to reduce forest loss and increase forest cover appears to be feasible. The development and implementation of the strategy includes a multi-stakeholder consultation process. The strategy is based on quantified and time-</u></p>	OK	[1] <u>National REDD+ Strategy (2021)</u>

	<p><i><u>bound milestones against a defined baseline as well as on a clear understanding of challenges in the enabling environment along with the plans to address them. It covers the main drivers of deforestation and is embedded into other national plans and policies. The implementation plan has been adopted, approved, and is publicly available.</u></i></p> <p><i><b>The <u>National REDD+ Strategy (NRS)</u>, adopted in April 2021, was developed through a multistakeholder consultation process.</b> Development began in 2016, through meetings held at local levels and the central level, stakeholders across sectors were engaged to comment on and prioritize the drivers of deforestation and underlying causes to be addressed and to identify measures to be incorporated into the five priority programs and 24 priority projects for REDD+ implementation. The consultation process was considered to be broad and inclusive [1].</i></p> <p><i>To oversee the implementation and management of REDD+ in the country, the Ministry of Agriculture and Forestry (MAF) has appointed a National REDD+ Taskforce (NRTF), which is intended to be multi-sectoral and inclusive. It is chaired by a vice-minister of the MAF and is composed of representatives from other relevant ministries, the private sector, the Lao Front for National Development, and the Lao Women’s Union. The draft NRS was reviewed by stakeholders at central and local levels, including the NRTF.</i></p> <p><i>In general, Lao PDR’s forest instruments include quantified and time-bound milestones, such as:</i></p> <ul style="list-style-type: none"> <li><i>• By 2025: “Reduce greenhouse gas emissions in the forestry sector by 30 million tCO<sub>2</sub>e by 2025, by reducing emissions from forest/tree loss of around 21 million tCO<sub>2</sub>e, and the promotion of removals of around 9 million tCO<sub>2</sub>e through forest restoration and plantation” [1].</i></li> <li><i>• By 2030: “By 2030, forest and forestland, which will cover 70% of the total land area, are sustainably managed, protected, developed and utilized...” [1] (Previously, the Forest Strategy to the year 2020 set targets for 65% forest cover by 2015 and to 70% by 2020.)</i></li> </ul>	<p><i>[2] <u>Lao PDR NDC (2020)</u></i></p> <p><i>[3] <u>9th National Socio-Economic Development Plan for 2021-2025 (NSEDP) (2021)</u></i></p> <p><i>[4] <u>FCPF Readiness Package (R-Package) (2018)</u></i></p>
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		<ul style="list-style-type: none"> <li>• The country's 2<sup>nd</sup> NDC sets quantified targets that are largely in line with the NRS, though the 70% target is termed "conditional". From 2020-2030: Unconditional target to reduce forest emissions by 1,100 ktCO<sub>2</sub>e/year, equivalent to increasing forest stocks by 8,300 ha per year. Conditional target of increasing forest cover to 70% of land area, i.e. 16.58 million ha, equivalent to abatement of 45,000 ktCO<sub>2</sub>e/year from 2020-2030 [2].</li> <li>• The 9th NSEDP includes a target for forest growth "to reach 1.5% per year" [3].</li> </ul> <p><i>Lao PDR has already made strides in strengthening its enabling environment. Since 2008, Lao PDR has been a REDD+ pilot country and has established REDD+ institutional arrangements at the central level and in select priority provinces. It has created a National REDD+ Taskforce (NRTF) at the central level and a Provincial REDD+ Task Force (PRTF) at certain provincial levels to guide the implementation of REDD+. [1] It has also adopted and revised a number of new Laws to strengthen forest management, including the 2019 Land Law and the 2019 Forestry Law. In 2017, the government initiated the Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreement (VPA) negotiations with the EU including the multi-stakeholder process of defining and agreeing on Lao PDR's Timber Legality Definition (TLD) and development of a Timber Legality Assurance System (TLAS) [4].</i></p> <p><i>The MAF's priorities for the national policy framework strengthening include:</i></p> <ul style="list-style-type: none"> <li>(1) implementation of the 2019 Forestry Law through specific legislation, and</li> <li>(2) implementation of PM Order No. 15/PM dated 13/5/2016 on Enhancing Strictness on the Management and Inspection of Timber Exploitation, Timber Movement and Timber Business, which bans the export of un-finished wood products from natural forests [1].</li> </ul> <p><i>Each of the five programs under the NRS include projects to "enhance the capacity for the implementation of existing policies, laws and regulations..." [1] related to the project themes (which address distinct drivers of deforestation such as agriculture, illegal logging, infrastructure development, and uncontrolled non-timber forest product collection); or to "formulate and improve legislation" related to these drivers [1].</i></p>		
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		<p><i>Critical success elements of the NRS of Lao PDR include, for example, setting a baseline against which to compare progress. The NRS reports that average annual forest emissions from 2005-2015 were about 41 million tCO<sub>2e</sub> per year, while removals from restoration and plantation were about 7.5 million tCO<sub>2e</sub> per year. The NRS also identifies the main drivers of deforestation and forest degradation (forest emissions) and presents specific approaches to address. Each of these drivers is specifically addressed through a defined program under the NRS [1].</i></p> <p><i>The NRS has been developed based on lessons and input from relevant national policies and commitments, such as the National Socio-Economic Development Plan (NSEDP), international conventions and other documents related to forest, forest resources and land. In addition, the NRS takes into account lessons learned from the implementation of the Forestry Strategy from 2005 to 2020, national REDD+ readiness projects, and REDD+ pilot projects at sub-national levels. The NRS has already been integrated into the 9<sup>th</sup> NSEDP and will be incorporated into the Forestry Strategy 2030, which is currently being drafted.</i></p>		
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## Checklist JEC 3: Progress

## Lao PDR

Item	Criteria	Analysis	Check	References																								
3.1	Timely progress towards milestones of the strategy...	<p><i>Summary conclusion: Lao PDR adopted its National REDD+ Strategy in 2021, thus it is too early to assess progress against the targets. Based on the reported REDD+ results and the country's recent adoption and implementation of a number of revised and new laws and policies, it is deemed that the jurisdiction is making timely progress towards its milestones.</i></p> <p><i>Lao PDR published its first National REDD+ MRV report in 2020 as a Technical Annex on REDD+ to its first Biennial update report (BUR1) [1, 2]. This does not provide reporting against the targets in the 2021 NRS or 2<sup>nd</sup> NDC, but it provides a reporting basis that is intended to continue and which will be useful for tracking progress toward those targets.</i></p> <p><i>Table 3 demonstrates the baseline level of emissions (FREL) (2005-2014)<sup>36</sup> [3] and the results reported in the Technical Annex on REDD+ [1].</i></p> <p><i>Table 3 Progress in reducing forest emissions and increasing removals (in tCO<sub>2</sub>e)</i></p> <table border="1"> <thead> <tr> <th></th> <th>2005-2014 baseline [2]</th> <th>2015-2016 [9]</th> <th>2017-2018 [9]</th> </tr> </thead> <tbody> <tr> <td>Average annual forest emissions<sup>37</sup></td> <td>41,013,316</td> <td>38,332,373</td> <td>37,291,634</td> </tr> <tr> <td>Emissions reductions (tCO<sub>2</sub>e/year)</td> <td></td> <td>2,680,944</td> <td>3,721,683</td> </tr> <tr> <td>Average annual forest removals</td> <td>-7,533,558</td> <td>-8,001,883</td> <td>-8,001,883</td> </tr> <tr> <td>Removals increase (tCO<sub>2</sub>e/year)</td> <td></td> <td>468,325</td> <td>468,325</td> </tr> <tr> <td>Average net forest emissions</td> <td>33,479,758</td> <td>30,330,490</td> <td>29,289,751</td> </tr> </tbody> </table>		2005-2014 baseline [2]	2015-2016 [9]	2017-2018 [9]	Average annual forest emissions <sup>37</sup>	41,013,316	38,332,373	37,291,634	Emissions reductions (tCO <sub>2</sub> e/year)		2,680,944	3,721,683	Average annual forest removals	-7,533,558	-8,001,883	-8,001,883	Removals increase (tCO <sub>2</sub> e/year)		468,325	468,325	Average net forest emissions	33,479,758	30,330,490	29,289,751	OK	<p>[1] <u>Technical Annex on REDD+</u></p> <p>[2] <u>Biennial update report (BUR1) (2020)</u></p> <p>[3] <u>FREL (2018)</u></p> <p>[4] <u>National REDD+ Strategy (2021)</u></p>
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<sup>36</sup> There is a difference in the time frame that is referred in the updated [FREL](#) as 2005-2015

<sup>37</sup> Forest emissions include emissions from deforestation, forest degradation, and changes between different land or forest strata.

		<p>Based on these results, Lao PDR is on the right trajectory to reduce forest emissions and increase removals by 2025. The country will need to increase its rate of reduction and removals increase from that seen in its 2015-2018 period in order to meet the 2025 target, but it is feasible that such a pace can be achieved given the adoption of the NRS in 2021 and increased focused on REDD+ implementation [4].</p> <p>In addition, Lao PDR has made a significant progress in terms of adopting and implementing supporting laws, regulations, and policies, as well as established new ones, to support the achievement of its forest-related targets:</p> <ul style="list-style-type: none"> <li>• <b>2013</b> – Establishment of National REDD+ Task Force</li> <li>• <b>2017</b> – Forest Law Enforcement, Governance and Trade (FLEGT) Voluntary Partnership Agreement (VPA) negotiations initiated with EU</li> <li>• <b>2019</b> - Law on Forestry (amended) adopted</li> <li>• <b>2020</b> - Law on Land (revised) adopted</li> <li>• <b>2021</b> - 9th National Socio-Economic Development Plan (NSED) adopted             <ul style="list-style-type: none"> <li>- National REDD+ Strategy (NRS) adopted</li> <li>- ERPA signed with World Bank under FCPF Carbon Fund</li> <li>- 2<sup>nd</sup> NDC submitted under UNFCCC</li> </ul> </li> <li>• <b>Planned improvements:</b> <ul style="list-style-type: none"> <li>- MAF to advance (1) implementation of the 2019 Forestry Law through specific legislation and (2) implementation of PM Order No. 15/PM dated 13/5/2016 (timber export ban) [1]</li> <li>- 2030 Forestry Strategy (currently under development)<sup>38</sup>.</li> </ul> </li> </ul>		
3.2	... measurably on a trajectory towards the targets for	<p><u>Summary conclusion: Lao PDR has publicly available documentation showing how its REDD+ results were achieved, including discussions of the methodologies used and consistency with existing national documents and international guidelines. These results are considered measurable and verifiable.</u></p>	OK	<p>[1] <u>Technical Annex on REDD+</u></p> <p>[2] <u>FREL (2018)</u></p>

<sup>38</sup> The National REDD+ Strategy will be incorporated into the 2030 Forest Strategy

<p><i>reduced deforestation</i></p>	<p><i>The methodology used to report its REDD+ results is aligned with the methodology used to generate the country's 2018 FREL, with certain key data updates. The National REDD+ MRV report (2020), submitted as a Technical Annex on REDD+ with the first Biennial update report (BUR1) [1,3], reports REDD+ progress as described in JEC 3.1 above. Its methodologies are in line with those used to produce the 2018 FREL [1,2] with some updated data. Table 11 of the National REDD+ MRV report ([1], page 11) describes the comparison between FREL methodologies &amp; data vs. the REDD+ results reported. The forest definition, land and forest classification system, stratification, activities included, carbon pools, gases, scale, and model applied are all the same.</i></p> <p><i>The REDD+ results use updated emission factors (from the 3<sup>rd</sup> National Forest Inventory (NFI) compared to the FREL (2<sup>nd</sup> NFI, country-specific allometric equations, IPCC default values, and data of Vietnam). The REDD+ results also use updated (2019) national-scale forest type maps compared to the FREL (2005, 2010, and 2015 maps).</i></p> <p><i>The methodology used to report Lao PDR's REDD+ results is largely consistent with IPCC Guidelines, with certain allowances taken for national circumstance [1,2]. The 2006 IPCC Guidelines were used to create the FREL and are also used to report REDD+ results [1]. Equations from the 2006 IPCC Guidelines were used to estimate carbon stock changes for land conversion, and for gain/loss from selective logging in forest-remaining-forest. Forest carbon stocks were derived from data from the 3<sup>rd</sup> National Forest Inventory using default parameters from the 2006 IPCC along with some data from Vietnam. Above-ground biomass stocks were estimated using country-specific allometric equations. Below-ground carbon stocks were estimated using root-to-shoot ratios and carbon fraction values from the 2006 IPCC Guidelines.</i></p> <p><b><i>Lao PDR's reported progress is based on transparent, consistent, and publicly available information [1,2].</i></b> <i>The NFMS stores national datasets used for the FREL and REDD+ results that are publicly available. The raw datasets and calculation spreadsheets are also available upon request. Technical working group meetings for MRV are also generally open.</i></p> <p><i>The UNFCCC's 2019 technical assessment [4] of Lao PDR's FREL found that the data and information was overall in accordance with accepted guidelines but identified some areas for</i></p>	<p><i>[3] Biennial update report (BUR1) (2020)</i></p> <p><i>[4] Report of the technical assessment of the proposed forest reference emission level/forest reference level of the Lao People's Democratic Republic submitted in 2018 UNFCCC (2019)</i></p> <p><i>[5] National Forest Monitoring System Road Map Dept. of Forestry (2020)</i></p>
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		<p><i>future improvement. The assessment highlighted that the country used a simplified approach for land representation, i.e. all non-forest land classes (cropland, grassland, wetlands, settlements, other land) were grouped into one 'non-forest' class. This approach is not consistent with IPCC guidelines; the country's simplification "affects the estimation of emissions and removals from forest land converted to other land-use categories (deforestation)" [4]. Additionally, the assessment also suggested that future FRELs use information on the areas of post-deforestation land-use categories and their carbon stocks – instead of using an area-weighted average of the biomass carbon stocks – to estimate the land-use category-specific emissions from forest land conversions to those land-use categories. This would increase the accuracy of the estimates of emissions from deforestation [4].</i></p> <p><i>In 2020, Lao PDR published its National Forest Monitoring System (NFMS) Road Map [5], which addresses drawbacks identified by the UNFCCC assessment and other reviews and outlines overall plans for improvement of forest monitoring and reporting. However, the Road Map declines to address the two main issues raised by the UNFCCC technical assessment (expanding the "non-forest" class to align with IPCC categories of grassland, cropland, settlement, wetland, and other land; and using an area-weighted average biomass for non-forest lands). Both of these issues are addressed and justified in the (modified, May 2018) FREL submission [2]. For both, Lao PDR judges the added simplicity and reduced complexity to be a net benefit, in that it reduces uncertainty of the calculations and is unlikely to significantly impact the reference level calculations given the relatively small proportion of non-forest to forest land in the country. In the NFMS Road Map, the same land stratification is proposed for the next FREL to enable consistency, while emissions factors and activity data will be updated from future forest surveys. Otherwise, the Road Map presents an ambitious plan to address other weaknesses in its NFMS, including improving estimates for activity data, enhancing efficiency, producing a new base map to address mis-classifications in the previous version, and expanding the scope of forest monitoring.</i></p>		
3.3	Verifiable improvement of the enabling environment	<p><b>Summary conclusion:</b> <u><i>In recent years, Lao PDR has made significant reforms in its policy framework and has succeeded in enhancing political will for forest conservation. It has embedded forest conservation, sustainable management, and restoration in both its national development framework and its international commitments.</i></u></p>	OK	<p><u><i>[1] Lao PDR Forest Note: Toward Sustainable Forest Landscapes for Green Growth, Jobs, and Resilience World Bank 2020</i></u></p>

	<p><i>In recent years, the government of Lao PDR has embarked on a number of reforms that have laid the groundwork for successful forest conservation, management, and reforestation.</i></p> <p><b><i>One major policy success has been limiting the uncontrolled expansion of concessions in forest areas.</i></b> <i>Per the World Bank [1] the first major policy shift occurred in 2012 with the Prime Minister's Order 13, which suspended the granting of new concessions for mining, eucalyptus and rubber investments, which remains in effect today. Previously, concessions had often been established through the clearing of forest areas. The regulation was slow to take effect, but despite rocky implementation it has reduce the area of natural forest lost to plantations by about 40% (annual average 2015-2019 compared to 2005-2015).</i></p> <p><b><i>Lao PDR has also made great strides in reducing illegal logging.</i></b> <i>A national moratorium on logging in production forests, Prime Minister's Order No.15 of 20165, has been in effect since 2013 in order to protect natural forests from unsustainable exploitation [2]. The order strengthened enforcement of restrictions to halt illegal logging and illegal timber exports and enabled a 75% reduction in the volume of illegal logging in just one year. Progress toward reducing illegal logging is expected to continue through the FLEGT Voluntary Partnership Agreement (VPA) with the EU.</i></p> <p><b><i>Political will for forest conservation, sustainable management, and restoration has been increased across the country.</i></b> <i>Lao PDR established its first two national parks in 2019 and the third one in 2020. Nam Et-Phou Louey and Nakai Nam Theun are the two largest Protected Areas in Indochina. Hin Nam No, the third national park, is under consideration for World Heritage Designation. In addition, two hydropower projects have been cancelled in the last five years to avoid adverse impacts on Nam Et-Phou Louey national park; and the government has put strict conditions on a reservoir that would flood 5% of the area of Dong Hua Sao national park. Nature-based tourism has become a high government priority, evidence in its national development plans.</i></p> <p><b><i>Forests are well integrated into Lao PDR's domestic priorities and international commitments.</i></b> <i>Environmental protection is a core expected outcome of the 9th National Socio-Economic Development Plan for 2021-2025, while recent legislative advances in adopting the Law on Forestry, the Law on Land, the National REDD+ Strategy, among other policies have</i></p>	<p><i>[2] <u>Lao PDR FCPF ERPD</u> (2018)</i></p>
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		<p><i>cemented forests as a pillar of Lao PDR's green growth strategy. The country's international commitments also rely heavily on reducing emissions from the forest sector, including through sustainable forest management, reducing deforestation, and reforestation/restoration to meet its mitigation objectives.</i></p>		
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## Checklist JEC 4: Monitoring, Reporting and Verification (MRV)

Item	Criteria	Analysis	Check	Lao PDR References
4.1	Transparent system operational	<p><i>Summary conclusion: <u>Data and information for constructing Lao PDR's FREL/FRL are transparent and complete and are in accordance with the guidelines; the re submitted FREL strived to improve clarity and transparency of the process. Lao PDR's initial NFMS is in overall alignment with the methodological approach for the FREL/FRL elaboration; this allows for consistency with the MRV functions of the system.</u></i></p> <p><i>Around 2010, when Lao PDR initiated the development of its national Forest Type to support REDD+ mechanism, the government and stakeholders, reviewed the land/forest classification system to be applied. The general definition considers "current" and "potential" forests lands but with an extensive sub classification of land uses intended to reflect the forest situation in the country; the prevalence of shifting cultivation and the presence of vast areas of forest fallow and different stages of regenerating processes going on requires a diversified classification [1]. However, departing from the IPCC Guidelines for the FREL elaboration, all non-forest land classes were grouped into one non-forest class to simplify land representation. National data was the limitation demanding this approach.</i></p> <p><i>Lao PDR's National Forest Monitoring System (NFMS) uses a combination of remote sensing and ground-based forest carbon inventory approaches to consistently estimate REDD+ results [1]. Activity data include deforestation (forest to non-forest), degradation (biomass difference and selective logging), forest restoration, reforestation, and no change. Information on this is generated spatially using satellite-based analysis of land/forest cover for the two periods: 2005-2010 and 2010-2015<sup>39</sup>. Emissions &amp; removals factors are based on biomass data for each type of land/forest cover change from ground-based sampling (2<sup>nd</sup> National Inventory) combined with country-specific allometric equations and independent measures. IPCC default and data from neighbouring countries are used for specific cases. Proxy data (tree stumps observed and measured) is used to estimate emissions from selective logging. The methodology</i></p>	OK	<p><i>[1] <u>FREL (2018)</u></i></p> <p><i>[2] <u>National Forest Monitoring System Road Map Dept. of Forestry (2020)</u></i></p> <p><i>[3] <u>Government of Lao PDR Update on CFP Feedback (2020)</u></i></p> <p><i>[4] <u>Building global capacity to increase transparency in the forest sector – FAO</u></i></p> <p><i>[5] <u>Lao PDR strides towards transparency in forest monitoring – FAO 2021</u></i></p>

<sup>39</sup> Year 2000: Landsat 5 – Resolution 30 m; Year 2005: SPOT4/5 – Resolution 10 m.; Years 2010 and 2015: RapidEye – Resolution 5m.

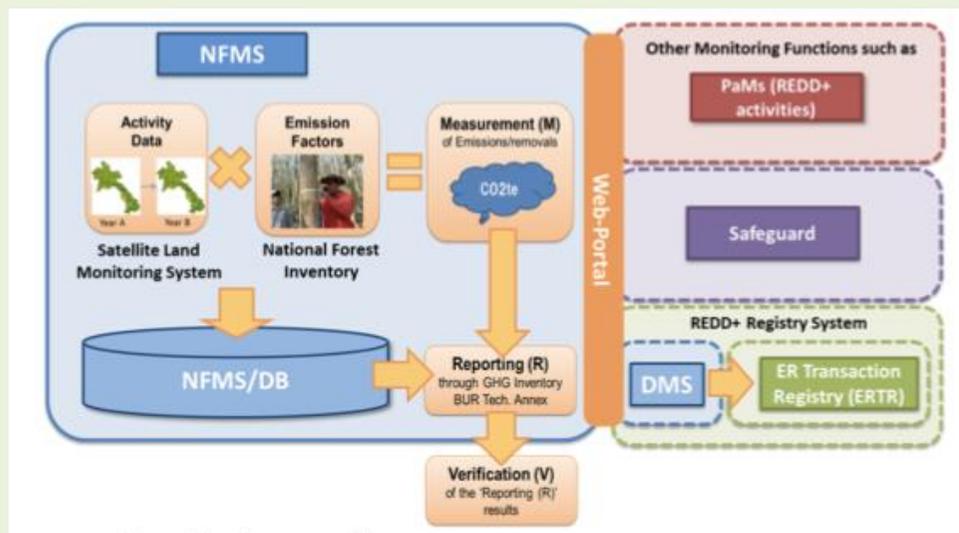
also includes an estimation of uncertainty used a propagation of error approach throughout the entire FREL elaboration process.

**Lao PDR has established a NFMS Roadmap to improve the accuracy and reliability of its MRV system [2] and has taken steps to respond to feedback provided by the FCPF Country Focal Points [3].** In this document, Lao PDR presents the conceptual design for the NFMS that includes details in the composition of the system. Methodological approach for each one of the NFMS components (Activity Data (AD), Emission Factor (EF)) is also presented as well as for the forest cover change monitoring, operation of the IT (NFMS web-portal and NFMS database), institutional arrangement and action calendar for implementing and managing NFMS. This is claimed to be as a “living document” as it is open to further modifications and adjustments [2]

The envisioned scope of the NFMS specifies three components based on three basic functions:

- *MRV: Monitors the performance of the implementation of the REDD+ Strategy by measuring the emissions and removals against FREL. For this, activity data and emissions factors are developed by updating the forest type map.*
- *Forest monitoring: is aimed to support the sustainable management of forest resources in Lao PDR; It is expected to support the design and the assessment of effects from policies and measures.*
- *Data Management: It shall include satellite imagery, forest type maps, National Forest Inventory data, Ground truthing and other survey data and Forest categories and concessions boundaries. In addition, it is expected to linked to the Safeguard Information System as well.*

Figure 6. Planned development of the NFMS



Standard Operating Procedures (SOPs) will be developed for each of the necessary components for MRV, including Forest Type Map development, National Forest Inventory, NFMS database and web-portal, and estimation of emissions/ removals, REDD+ results and uncertainty [2]. The NFMS Roadmap was developed using input from an NFMS Country Needs Assessment conducted in September 2019 in collaboration with the FCPF and the Global Forest Observations Institute. In addition, the government of Lao PDR established collaboration with SilvaCarbon to enhance the accuracy of its mapping [G]. To reduce uncertainty, the government contracted with Winrock International and Forest Carbon to assess alternatives for optical remote sensing imagery.

The NFMS web-portal and database has been partially developed. Priority has been given to its MRV function (mainly 'Measurement'), namely the information related to (1) Activity Data, (2)

		<p>Emission Factors, and (3) CO<sub>2</sub> Emissions. Time for the full operability of the system is expected by 2030 [2].</p> <p>Besides the ER-P and the National REDD+ Programmes, there are several projects in Lao PDR that also monitor the forest and contribute to the sustainable management of forest resources by providing more detailed data [2]:</p> <ul style="list-style-type: none"> <li>○ Near real time Provincial deforestation Monitoring System</li> <li>○ Operational Logging and Degradation Monitoring (OLDM) System</li> <li>○ Tracking Forest Crime including illegal logging</li> <li>○ Provincial monitoring with Collect Earth</li> <li>○ Village Forest contracted management and monitoring</li> </ul> <p>As part of its efforts to continue increasing transparency in the forestry sector, Lao PDR participated in a FAO training on data analysis as part of the project “Building global capacity to increase transparency in the forest sector (CBIT-Forest)” [4]. This is a two year global project to set up capacities in developing countries to collect, analyse and disseminate forest-related data in line with the Enhanced Transparency Framework (ETF) [5].</p>		
4.2	Progress towards implementation of the MRV system	<p><b>Summary conclusion:</b> <u>Besides MRV on the REDD+ Mechanisms, the general development of a national MRV system is to be developed. Conceptual and institutional framework for the REDD+ MRV is already structured, and funding is also budgeted to continue with its development.</u></p> <p>Lao PDR is planning to develop an MRV system that provides information on three main aspects: Greenhouse gases, mitigation actions and effects, and supports received [1]. According to the BUR 1, the MRV is expected to operate, in the short term, based on existing domestic processes, arrangements, systems, and sectoral approaches.</p> <p>Likewise, in the near term, MRV is expected to focus on the national level, sectoral level, programs and projects, and at the facility level:</p>	OK	<p>[1] Biennial update report (BUR1) (2020)</p> <p>[2] <u>National Forest Monitoring System Road Map</u> Dept. of Forestry (2020)</p> <p>[3] FP 117. <u>Implementation of the Lao PDR Emission Reductions Programme through improved governance and</u></p>

	<ul style="list-style-type: none"> <li>○ At the national and sectoral level, MRV operates through the National GHG inventory to elaborate National Communications and BUR reports. This is conducted regularly by the Ministry of Natural Resources and Environment (MONRE).</li> <li>○ At the sectoral level, MRV is also carried by specific sectoral approaches or mechanisms such as REDD+. The responsible for this is the Ministry of Agriculture and Forestry (MAF).</li> <li>○ At the programme, project level, or facility level, MRV is yet to be developed.</li> <li>○ MRV on supports received (domestic or international) will be in charge of the Ministry of Planning and Investment (MPI) and the Ministry of Finance (MOF) which have a centralized database system.</li> </ul> <p>The Ministry of Natural Resources and Environment (MONRE) is assigned to coordinate other relevant sectors and to compile information on mitigation actions and effects to elaborate UNFCCC reports (NC, BUR, and NDCs); it will be also overseeing MRV processes in general. The National Assembly and State inspection are designated as third-party organisms.</p> <p>However, the Department of Forestry (DOF) as responsible for the management of forests, oversees the implementation of REDD+ and monitors the development of the NFMS together with the operational management delegated to the Forestry Inventory and Planning Division as the technical manager of the NFMS [2]. Other institutions involved are the Department of forestry Inspection (DOFI) in charge of monitoring illegal logging, the Department of climate change under the Ministry of Natural Resources and Environment (MONRE), the Ministry of Agriculture and Forestry, Academy and external donors and NGOs. All these institution (except for DOFI) constitute the Technical Working Group that contribute to the MRV and the forest monitoring construction.</p> <p>In 2019, Lao PDR was granted \$16 million from the GCF for the “Implementation of the Lao PDR Emission Reductions Programme through improved governance and sustainable forest landscape management”. Output 1 budgeted activities for the implementation of the measurement, reporting, and verification (MRV) system. This includes support for the National Forest Inventory, assessment of the FREL and calculations, and implementation of the NFMS (Development of a Web-based national forest management system (NFMS), Design and set-up</p>	<p><u>sustainable forest landscape management</u></p>
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		<p><i>of a carbon registry, Operation of the NFMS, and improvement to address new requirements and Capacity building for localization of system operation and maintenance). The first project, focused on three Lao provinces, will be implemented by 2024 [3].</i></p>		
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## Checklist JEC 5: Social and environmental safeguards

Checklist JEC 5: Social and environmental safeguards			Lao PDR	
Item	Criteria	Analysis	Check	References
5.1	Safeguards against social and environmental risks associated with the strategy in place	<p><i>Summary conclusion: Lao PDR has in place a robust network of national policies, legislation, and institutional mechanisms to address and respected Cancun safeguards. While weaknesses remain, including in addressing the environmental risk of reversals and displacement, the country has a plan in place to strengthen these areas. Lao PDR has received some criticism for its lack of full respect and integration of human rights concerns at home, which is worth continuing to monitor, particularly in its response to the disappearance of environmental defenders.</i></p> <p><i>It is clear that laws and regulations and instruments in place at the national level are consistent with Cancun Safeguards. Table 4 (p49) of the first Summary of Information on Safeguards [1] includes an extensive list of key national policies, legislation, and regulations that align with each of the Cancun Safeguards. In aligning REDD+ with national objectives (safeguard (a)) and ensuring transparent forest governance (b), the Summary cites the Lao Constitution, the Forest Strategy to 2020, the Nation Strategy on Climate Change, the Forestry Law, and a number of Prime Minister's decrees, among others. On respecting the knowledge and rights of Indigenous peoples and local communities (c) and ensuring full and effective stakeholder participation (d), the Summary lists decrees on Strategic Environmental Assessment, Environmental Impact Assessment; decrees and regulations covering compensation and resettlement, participatory land use planning, grievance redress mechanisms, and gender equality strategies. For ensuring the conservation of natural forests and biological diversity (e), addressing the risk of reversals (f), and reduce displacement of emissions (g), the table cites the National Biodiversity Strategy, the Forestry Law, the Law on Environmental Protection, and a number of other laws related to development, extraction, impact assessments, moratoria and standards.</i></p> <p><i>Lao PDR has made clear progress in realizing its REDD+ safeguards system at the national level. Lao PDR submitted its first Summary of Information on Safeguards [1] in early 2019, covering 2015-2018. From the beginning, Lao PDR has developed many</i></p>	OK	<p><i>[1] <u>1st Summary of Information on How Safeguards for REDD+ were addressed and respected by Lao People's Democratic Republic for the period 2015-2018</u></i></p> <p><i>[2] <u>Universal Periodic Review - Lao People's Democratic Republic. UN Human Rights Council, 2020.</u></i></p> <p><i>[3] <u>Briefing paper for the 10th EU-Laos Human Rights Dialogue. FIDH, 2021.</u></i></p>

subnational REDD+ project which have informed REDD+ readiness at the national level, including in safeguards preparation. **Table 4** outlines a number of safeguards-related framework that have been implemented via existing REDD+ projects.

Table 4. REDD+ safeguard instruments

Project/Programme	Instruments developed
<b>Governance, Forest Landscapes and Livelihoods - Northern Laos (GFL)</b>	Environmental and Social Management Framework (ESMF) The Ethnic Group Policy Framework (EGPF) Resettlement Policy Framework (RPF) Process Framework (PF)
<b>Forest Investment Program</b>	Safeguard Instruments Implementation of Social Safeguards Implementation of Environmental Safeguards
<b>Biodiversity Conservation Corridors Project (BCC)</b>	Safeguard Instruments Implementation of Social Safeguards Implementation of Environmental Safeguards
<b>Implementation of Environmental Safeguards</b>	Safeguard Instruments (Social and Environmental) Safeguards Implementation

Building on these instruments, Lao PDR is developing its Safeguard Information System (SIS) to provide regular information on how Cancun Safeguards have been addressed and respected. Based on significant analytical work and years of experience in REDD+ project implementation, Lao PDR has developed a set of safeguards, principles and criteria, and a gap analysis of policies, laws and regulations. Based on the gap analysis, the government has concluded it has in place an adequate framework to address social safeguards, but it still lacks capacity in addressing the environmental risk of reversals and displacement. Further strengthening of existing mechanisms is planned to ensure an effective and functioning SIS and safeguards system [1].

		<p><i>Lao PDR has received recognition on the international stage for its recent advances in securing human rights and basic needs for its citizens, though significant concerns remain among other UN member countries, including a closing space for civil society, enforced disappearances, and public participation and inclusion, especially for minorities. Other UN member countries have recommended a number of specific actions to further human rights in the country. In Lao PDR's universal Periodic Review by the UN Human Rights Council [2], Lao PDR largely received praise and acknowledgment from participating countries for its advancements in ensuring health and education access and the rights of women. Recommendations which were made by multiple countries included abolishing the death penalty and signing and international agreement on the same; ratifying the International Convention for the Protection of All Persons from Enforced Disappearance and strengthening national response to cases of enforced disappearance, especially in the case of Sombath Somphone, an environmental defender; establishing a national human rights institution in accordance with the Paris Principles; mainstreaming human rights into national legislation; ensuring the right to freedom of expression e.g. in regards to media, NGOs and civil society; taking greater steps to combat human trafficking. Lao PDR's government, however, did not accept or respond to the majority of the recommendations [3]. In addition, it did not submit its follow-up report to the Periodic Review, which was due in July 2020. The government was required to provide information on the implementation of recommendations related to 1) enforced disappearances; 2) participation in public affairs and the right to vote; and 3) rights of persons belonging to minorities. It remains to be seen whether the government of Lao PDR will fully cooperate with international UN processes for human rights advancement.</i></p>		
5.2	Progress	<p><u>Summary conclusion: Lao PDR continues to progress in developing its system for addressing and respecting safeguards as part of implementation of the Cancun Agreement. A number of laws, regulations, and policies adopted in the last five years have closed gaps in the system, while the country plans continued progress in formalizing the system through e.g. the Safeguards Information System development.</u></p>	OK	<p><u>[1] 1st Summary of Information on How Safeguards for REDD+ were addressed and respected by Lao People's Democratic</u></p>

	<p><i>In the last five years, Lao PDR has made significant steps toward implementing the Cancun Agreement through mainstreaming of its provisions into its national policy and legislative framework [1]. In a 2015 GIZ report [2], needed amendments to the Land and Forest Laws, land tenure security policy, benefit-sharing, transparency systems, and grievance redress mechanisms were all identified as critical gaps in Lao PDR's implementation of the Cancun Agreement. Since then, these gaps have been filled or addressed [1]:</i></p> <ul style="list-style-type: none"> <li><i>• The 2017 National Policy on land and the 2018 National Master Plan for Land Allocation aim to strengthen and clarify land tenure and land use rights</i></li> <li><i>• The Law on Forestry and the Law on Land were amended in 2019 and 2020, respectively. The Land Law recognizes customary land rights, while the Forestry Law promotes and acknowledges the sustainable management of forests by communities and households.</i></li> <li><i>• Under individual REDD+ projects, benefit-sharing and grievance redress mechanisms have been developed which strengthen the national approach to these safeguards.</i></li> <li><i>• Advancements have been made in information transparency, including through the participatory creation of the National REDD+ Strategy and development of the Safeguards Information System and the National Forest Monitoring System.</i></li> </ul> <p><i>In addition, the first Summary of Information describes in great detail how each Cancun safeguard has been addressed during the REDD+ development process as well as identifies challenges in doing so, which will be addressed in the future.</i></p>	<p><u><i>Republic for the period 2015-2018</i></u></p> <p><u><i>[2] Policy, Laws and Regulations and the UNFCCC Cancun Safeguards: Frameworks and Gaps in the Lao PDR GIZ 2015</i></u></p>
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